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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Applicants : Satoshi KUME, et al.

Appln. No.: 09/610,263

Filed : July 5, 2000

For: ULTRASONIC SEALING APPARATUS

Conf. No. : 5002

Atty. Dkt. : 31671-164489RK

) Art Unit : 3721

) Examiner: Louis B. Tran

) APPEAL BRIEF

) Customer No.
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Sir:

Appellants submit herewith their Appeal Brief, pursuant to 37 C.F.R. §1.192.
Please charge the required fee of \$500 and any additional fees necessary, or credit any
refunds, to our deposit account no. 22-0261, referencing our docket no. 31671-164489.

REAL PARTIES IN INTEREST

The real party in interest is Shikoku Kakoki Co. Ltd., by virtue of assignment
from the Applicants.

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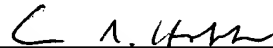
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CONCLUSION

In summary, Appellants submit that claims 2-8 and 15 are clearly novel and unobvious over the prior art. It is respectfully requested that the Examiner's rejections under 35 USC §§102 and 103 be reversed and the application be passed to issue.

Respectfully submitted,

Date: December 20, 2004



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RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellants or the Appellants' legal representative, or the assignee, that will directly affect or will be directly affected by or have bearing on the Board's decision in this appeal.

STATUS OF CLAIMS:

Claim 1 has been cancelled.

Claims 2-8 have been finally rejected.

Claims 9-14 have been cancelled.

Claim 15 has been finally rejected.

Claim 16 has been cancelled.

STATUS OF AMENDMENTS

One response, dated August 12, 2004, has been filed and entered subsequent to the Examiner's final rejection of May 20, 2004.

SUMMARY OF THE INVENTION

Disclosed and claimed is an ultrasonic sealing apparatus, in which a laminated packaging material containing a thermoplastic resin layer is formed into a tubular form and the tubular laminated packaging material is transversely ultrasonically sealed (*see* e.g. page 4 of the specification¹, beginning at line 19; page 5, beginning at line 14). As disclosed in the specification, and recited in independent claim 15, the ultrasonic sealing apparatus comprises a horn 14 having an elongated and flat sealing face 13 (e.g. page 5, lines 17-19, and Figure 3); and an opposing jaw (shown, e.g., in Figure 4) having an elongated pressing face (23 and 24, together) that presses the tubular laminated packaging material in cooperation with the sealing face of the horn (e.g. page 5, lines 19-21). The elongated pressing face extends in a longitudinal direction and has a center portion 24 and two end portions 23 wherein the center portion is narrower than both end portions. (e.g. Figures 5, 7 and 11).

¹ It is noted that page and line numbers refer to the Substitute Specification filed on June 1, 2001

As recited in claim 6, the narrow center portion of the pressing face 24 has a recess 27 formed along a direction perpendicular to the longitudinal direction of the pressing face (described on page 10, in the paragraph beginning on line 5). The recess 27 may have a variety of shapes, as shown, for example, in Figures 17-22, and noted on page 10, beginning at line 13, and in the paragraph beginning on page 15, line 19.

As recited in claim 7, the formed recess may have an arc shape in section. The arc shaped recess 25 is described at page 10, lines 13 and 21, and depicted in Figure 11.

Because of their design, the elongated sealing face of the horn and the elongated pressing face of the opposing jaw cooperate to form a superior seal with a low failure rate by preventing uneven sealing pressure (described at page 16, line 18 *ff*). The ultrasonic sealing apparatus may be used for sealing packages with liquid contents (described, e.g. at page 3, lines 6-14) as well as solid or dry contents.

The laminated packaging material may contain a paper layer (Claim 2, and at page 5, lines 22-23). The ultrasonic sealing may be sealing with a fluid, and the ultrasonic horn and opposing jaw may press together to seal the tubular laminated packaging filled with fluid content (Claim 3, and at page 3, lines 6-8). The length of the center portion in the longitudinal direction of the pressing face of the opposing jaw may be longer than the length of a longitudinally sealed three-ply portion of the tubular laminated packaging (claim 4, and e.g. at page 3, lines 21-23). The device may include sealing tape means, for use in forming the laminated packaging material into tubular form (claim 8, and at page 6, lines 13-15).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL:

1. Claims 15, 6 and 7 stand rejected under 35 USC § 102(b) as being anticipated by Kreager et al. (USP 4,534,818).
2. Claims 2, 3 and 4 stand rejected under 35 USC § 103(a) as being unpatentable over Kreager et al. (USP 4,534,818) in view of Bosche et al. (USP 4,159,220).
3. Claim 8 stands rejected under 35 USC § 103(a) as being unpatentable over Kreager et al. (USP 4,534,818) in view of Nakanose (USP 3,962,508).

4. Claim 5 stands rejected under 35 USC § 103(a) as being unpatentable over Kreager et al. (USP 4,534,818).

GROUPING OF THE CLAIMS:

Claims 15, 6 and 7 should be considered separately for the purposes of patentability for the reasons set forth below. Claims 2-5 and 8 may be grouped with claim 15.

ARGUMENT:

1. Claims 15, 6 and 7 are not anticipated by Kreager et al. (USP 4,534,818) under 35 USC § 102(b).

The Examiner stated that with respect to claims 15, 6 and 7, Kreager et al. anticipates the invention. Appellants respectfully disagree.

Claim 15

It is the Examiner's view that "with respect to claim 15, Kreager et al. anticipates an ultrasonic sealing apparatus in which a laminated packaging material containing thermoplastic is formed into a tubular form and the tubular material is transversely ultrasonically sealed by an apparatus comprising of a horn 12 with an elongated and flat sealing face 24 and an opposing jaw 18 as seen in Figure 1 of Kreager et al. The opposing jaw is disclosed as having an elongated pressing face that presses the packaging material in cooperation with the sealing face of the horn and having a center portion and two end portions wherein the center portion is narrower than both end portions as seen in Figure as item 28 in Figure 1." [Office Action of May 20, 2004, page 2, at line 12]

Appellants first note that the apparatus for ultrasonic sealing disclosed by Kreager et al. comprises a first jaw 16 to which an ultrasonic horn 12 is movably mounted and a second jaw 18 to which an ultrasonic anvil 14 is securely mounted. This can be seen in Figure 1, wherein the horn 12 is arranged so that it can move into the passageway 26 that is contained in the mounting member 24 to which the upper and lower film pulling means (28 and 30) are attached.

Comparison between the apparatus for ultrasonic sealing disclosed by Kreager et al. and the ultrasonic sealing apparatus of the present invention shows that the second jaw 18 of Kreager et al. corresponds to the opposing jaw of the present invention. According to independent claim 15 of the present invention, the opposing jaw has "an elongated pressing face that presses the tubular laminated packaging material in cooperation with the sealing face of the horn." However, no such "elongated pressing face" is disclosed for the second jaw of Kreager et al.

Furthermore, the Examiner found that "it is disclosed that the center portion is narrower than both end portions as seen in Figure as item 28 in Figure 1 [of Kreager]." However, as is apparent from Figure 1, item 28 in Figure 1 is mounted to a first jaw 16. [Meanwhile, a second jaw 18 is indicated by an arrow 18 in the lower section of Figure 1, and an area corresponding to "an elongated pressing face" is not illustrated in Figure 1.] Further, it is stated that "the upper film pulling means 28 of the first jaw cooperate with the upper film pulling means 34 of the second jaw" on 52 to 53 lines in the forth column of Kreager et al, the upper film pulling means 28 shown as item 28 in the figure is not mounted to a second jaw 18 but to a first jaw 16. The shape of the above-mentioned "the upper film pulling means 34 of the second jaw" mounted to a second jaw 18, is not clear. However, the upper film pulling means 34 cooperates with the upper film pulling means 28, but does not cooperate with the sealing face of the horn, unlike in the apparatus of the present invention.

In addition, the Examiner found "a horn 12 with an elongated and flat sealing face 24". However, Appellants respectfully submit that what is shown by item 24 in Figure 1 of Kreager et al. is not a sealing face of the horn. This is apparent from the description that "The first jaw 16 of the present invention comprises the ultrasonic unit generally designated 8 (comprising a converter and booster) mounting member 24 having provided therein a passageway 26 (through which horn member 12 passes) and a plurality of upper and lower film pulling means 28 and 30, respectively." on 39 to 45 lines in the fourth column.

The land areas corresponding to "an elongated pressing face that presses the tubular laminated packaging material in cooperation with the sealing face of the horn" of the present invention, correspond to "the upper and lower land areas 38, 40" in the

apparatus for ultrasonic sealing disclosed by Kreager et al. However, Kreager et al. teach nothing as to whether “the upper and lower land areas 38, 40” are “extending in a longitudinal direction and having a center portion and two end portions wherein the center portion is narrower than both end portions”.

In view of the above, Appellants respectfully submit that Kreager et al. does not disclose each and every element of the present invention as recited in claim 15. In particular, Kreager et al. does not disclose an opposing jaw having an elongated pressing face extending in a longitudinal direction and having a center portion and two end portions wherein the center portion is narrower than both end portions. Accordingly, it is respectfully submitted that Claim 15 is not anticipated by Kreager et al. It is respectfully requested that the Examiner's rejection of Claim 15 under 35 USC §102 be reversed.

Claim 6

It is the Examiner's view that with respect to claim 6, Kreager et al. discloses a narrow center portion 26 having a recess formed along a direction perpendicular to the longitudinal direction of the pressing face as seen in Figure 1. Appellants respectfully disagree.

The component of Kreager et al. referred to by the Examiner, and labeled "26", is the passageway through which the ultrasonic horn 12 passes, as described in col. 4, lines 42-44 of Kreager et al. This does not correspond to the recess 27 of the present invention, which is a recess in the narrow center portion of the elongated pressing face of the opposing jaw, and not a "passageway", as described by Kreager et al. For this reason (in addition to the reasons presented above for claim 15) it is respectfully submitted that claim 6 is not anticipated by Kreager et al. It is respectfully requested that the Examiner's rejection of Claim 6 under 35 USC §102 be reversed.

Claim 7

It is the Examiner's view that with respect to claim 7, Kreager et al. discloses a center portion having a recess formed as an arc shape as seen in Figure 1. Appellants respectfully disagree.

Appellants have examined Figure 1, and found no recess corresponding to the recess recited in claim 6, as noted above. Even accepting that the "passageway 26", represents a recess corresponding to Appellants' invention (which Appellants do not), passageway 26 is not arc shaped. For this reason (in addition to the reasons presented above for claims 15 and 6) it is respectfully submitted that claim 7 is not anticipated by Kreager et al. It is respectfully requested that the Examiner's rejection of Claim 7 under 35 USC §102 be reversed.

2. Claims 2, 3 and 4 are not obvious under 35 USC § 103(a) over Kreager et al. (USP 4,534,818) in view of Bosche et al. (USP 4,159,220).

With respect to claim 2, it is the Examiner's position that Kreager et al. does not show a laminated packaging material that contains a paper layer, but that Bosche et al. discloses the concept of a thermoplastic laminate material containing a paper layer. With respect to claim 3, it is the Examiner's position that Kreager et al. "does not show the transverse ultrasonic sealing is ultrasonic sealing with a fluid, an[d] the ultrasonic horn and the opposing jaws press together to seal the tubular laminated packaging material filled with fluid content," but that Bosche et al. discloses these details at col. 1, line 24. With respect to claim 4, it is the Examiner's position that Kreager et al. does not show a center portion length that is longer than a length of a longitudinally sealed three-ply portion of the tubular packaging material under a pressed state, but that Bosche et al. discloses these details at col. 7, line 45.

Appellants respectfully submit that the disclosure of the secondary reference Bosche et al. does not remedy the deficiency of the primary reference Kreager et al. to disclose an opposing jaw having an elongated pressing face extending in a longitudinal direction and having a center portion and two end portions wherein the center portion is narrower than both end portions, as required by base claim 15, from which claims 2, 3, and 4 depend. Accordingly, it is respectfully submitted that Claims 2, 3, and 4 are not obvious over Kreager et al. in view of Bosche et al. It is respectfully requested that the Examiner's rejection of Claims 2-4 under 35 USC §103 be reversed.

3. Claim 8 is not obvious under 35 USC § 103(a) over Kreager et al. (USP 4,534,818) in view of Nakanose (USP 3,962,508).

It is the Examiner's position that Kreager et al. discloses the invention substantially as claimed but does not show a resin tape for sealing and creating the tubular form and only discloses the fusing of thermoplastic to form a seal, but that "Nakanose discloses the common use of thermoplastic resin tap [*sic*] for packaging purposes in column 1, line 10."

Appellants respectfully submit that the disclosure of the secondary reference Nakanose does not remedy the deficiency of the primary reference Kreager et al. to disclose an opposing jaw having an elongated pressing face extending in a longitudinal direction and having a center portion and two end portions wherein the center portion is narrower than both end portions, as required by base claim 15, from which Claim 8 depends. Accordingly, it is respectfully submitted that Claim 8 not obvious over Kreager et al. in view of Nakanose. Therefore, it is respectfully requested that the Examiner's rejection of Claim 8 under 35 USC §103 be reversed.

4. Claim 5 is not obvious under 35 USC § 103(a) over Kreager et al. (USP 4,534,818).

It is the Examiner's position that Kreager et al. discloses the claimed invention except for a width of the center portion is 1/4 to 1/2 of a width of the pressing face at both end portions, but that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to find an optimum relation between the center portion and end portions."

Appellants respectfully submit that as detailed hereinabove, Kreager et al. to disclose an opposing jaw having an elongated pressing face extending in a longitudinal direction and having a center portion and two end portions wherein the center portion is narrower than both end portions, as required by base claim 15, from which Claim 5 depends. Accordingly, it is respectfully submitted that Claim 5 not obvious over Kreager et al. Accordingly, it is respectfully requested that the Examiner's rejection of Claim 5 under 35 USC §103 be reversed.

CLAIMS APPENDIX

Claims on Appeal:

2. An ultrasonic sealing apparatus according to claim 15, wherein the laminated packaging material contains a paper layer.
3. An ultrasonic sealing apparatus according to claim 15, wherein the transverse ultrasonic sealing is ultrasonic sealing with a fluid, and the ultrasonic horn and the opposing jaw press together to seal the tubular laminated packaging material filled with fluid content.
4. An ultrasonic sealing apparatus according to claim 15, wherein a length of the center portion, in the longitudinal direction of the pressing face of the opposing jaw is at least longer than a length of a longitudinally sealed three-ply portion of the tubular laminated packaging material under a pressed state.
5. An ultrasonic sealing apparatus according to claim 15, wherein a width of the center portion is $1/4$ to $1/2$ of a width of the pressing face at both end portions.
6. An ultrasonic sealing apparatus according to claim 15, wherein the narrow center portion has a recess formed along a direction perpendicular to the longitudinal direction of the pressing face.
7. An ultrasonic sealing apparatus according to claim 6, wherein the formed recess is a recess having an arc shape in section.
8. An ultrasonic sealing apparatus according to claim 15, further comprising sealing tape dispensing means wherein, when the laminated packaging material is formed into a tubular form, the laminated packaging material is formed into the tubular form by using sealing tape.
15. An ultrasonic sealing apparatus, in which a laminated packaging material containing at least a thermoplastic resin layer is formed into a tubular form and the tubular laminated packaging material is transversely ultrasonically sealed, said ultrasonic sealing apparatus comprising:
 - a horn having an elongated and flat sealing face; and
 - an opposing jaw having an elongated pressing face that presses the tubular laminated packaging material in cooperation with the sealing face of the horn, said

elongated pressing face extending in a longitudinal direction and having a center portion and two end portions wherein the center portion is narrower than both end portions.